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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/441,081	11/16/1999	TSUNEO SATO	1614.1010	3833

21171 7590 05/26/2004
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EXAMINER

HO, THOMAS M

ART UNIT PAPER NUMBER

2134

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/441,081

Applicant(s)

SATO ET AL.

Examiner

Thomas M Ho

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

1. The amendment of March 17th, 2004 has been received and entered.

Response to Amendments

2. Applicant's amendments to claims 1,6, 11 been fully considered to amend over Wilfong. Therefore, the rejections under 35 USC 102(b) has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wilfong and Pegg.

Response to Arguments

3. Applicant's arguments filed March 17th, 2004, have been fully considered but they are not persuasive.

Applicant amended claims 1, 6, and 11 to further include:

"wherein the user-specific formula includes one or more elements which are respectively, either an operand or an operator, and all said one or more elements are predetermined user-specific information except for the least one randomly generated number"

Applicant then argues the following:

Page 8, paragraph 1:

“Contrary to the recitation of claim 1, in the Wilfong method, the formula that the user uses is comprised of a random number, an addition operator, and a digit of the PIN. Except for the random number, only the digit of the PIN is user specific, and otherwise, the addition operator is not user-specific.”

Page 8, paragraph 2:

“However, in the Wilfong method, if the random number and the user entered digits are observed, the Wilfong system cannot protect the PIN from the bystander. This is because the addition operator is not user-specific, but, otherwise is known to the bystander.

Accordingly, claim 1 is submitted to be patentably distinguish over the cited art and is submitted to be allowable.”

The Examiner however, maintains that this was disclosed in the prior art Pegg, US Patent 5,163,097. Pegg(Figure 2b) & Pegg(Column 4, lines 67 – Column 5, line 2) discloses an embodiment in which algorithms selected to compute the PIN may be selected by the user or even created by the server, and thus, a method and apparatus wherein the operators are user specific.

In regards to combining Pegg and Wilfong in the previous 103 rejections, applicant argues that no motivation exists to combine the teachings of Pegg with that of Wilfong.

Applicant appears to argue in particular that because Wilfong uses a telephone system to enter a PIN number that there is no appreciable risk to the random number used in Wilfong being disclosed, and therefore no motivation to combine exists.

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In particular, Applicant (Page 8, last paragraph – Page 9, paragraph 1) states:

“To apply the Pegg user-selected algorithm to the Wilfong system, there must be an appreciation of the fact that there is a risk of having both the random number and the user-input observed by a bystander. In the absence of such appreciation, no motivation exists to combine these two systems, since each of the two systems provides security. Further, in the Wilfong method communication is made by telephone, so that there is no risk of having random numbers observed by bystanders, which can only observe the keys of the telephone.”

“Since in the Wilfong method the system prompt are not observable, no motivation exists to combine Pegg therewith because there is no need to cope with a situation where random numbers are observed by the bystanders.”

The Examiner however, maintains that though the system prompts are made in such a way as to not to be observable by bystanders (Wilfong Column 2, lines 31-33), it is understood to be an extra measure of security and is not to be read as unbreakable defense measure. Ideally, the system prompts including the random numbers are made in such a way so that it is difficult or unlikely that an observer will be able to observe the random number prompts. This is not to say that it is impossible for the random number prompts to be compromised or “observed”. Indeed, Wilfong acknowledges this weakness in having the prompts being compromised as being the motivation for using modular arithmetic in the first place. Wilfong(Column 5, lines 1-23)

It is even submitted that Applicant also realizes this as well, and cites it as the reason for which the amended independent claims are patentably distinguishable over the prior art.

Page 8, paragraph 2:

"However, in the Wilfong method, if the random number and the user entered digits are observed, the Wilfong system cannot protect the PIN from the bystander. This is because the addition operator is not user-specific, but, otherwise is known to the bystander.

Accordingly, claim 1 is submitted to be patentably distinguish over the cited art and is submitted to be allowable."

Applicant (Page 8, last paragraph – Page 9, paragraph 1) :

"Further, in the Wilfong method communication is made by telephone, so that there is no risk of having random numbers observed by bystanders, which can only observe the keys of the telephone."

"Since in the Wilfong method the system prompt are not observable, no motivation exists to combine Pegg therewith because there is no need to cope with a situation where random numbers are observed by the bystanders."

The Examiner further maintains that reasons to combine Wilfong and Pegg are not restricted to the single motivation of security. For example, the additional motivation of providing the user the convenience of choosing or even creating an algorithm suitable to his/her tastes is also disclosed by Pegg making the option to combine obvious in light of the disclosure thereof.

Pegg(Column 7, lines 15-24)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilfong and Pegg.

In reference to claim 1:

Wilfong discloses a device for checking user identification, comprising:

- A calculation unit which calculates a check value by applying a user-specific formula to at least one randomly generated number, where the randomly generated number is the random number in 204. (Figure 3, Item 204, 205)
- A matching unit which checks if the check value matches a user-entered value that is entered by a user in response to said at least one randomly generated number being presented to the user, where the matching unit verifies if the user entered value is correct. (Figure 3, Item 207)

Wilfong fails to explicitly disclose a device wherein the user-specific formula includes one or more elements which are, respectively, either an operand or an operator, and all of said one or more elements are predetermined user-specific information except for the at least one randomly generated number.

Pegg(Column 4, line 9 – Column 5, line 9) & Pegg(Figure 2a, Item 210) discloses an embodiment wherein the user-specific formula includes one or more elements which are, respectively, either an operand or an operator, where the operators are merely symbolic

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representations of the computations performed by the algorithm and all of said one or more elements are predetermined user-specific information except for the at least one randomly generated number.

Pegg(Column 7, lines 15-23) & Pegg(Abstract) additionally teaches that providing the user with the ability to select from several algorithm options would be convenient to the user in that it would allow to the user to remember his or her authentication information more easily.

It would have been obvious to one of ordinary skill in the art at the time of invention to provide the user the option of user-specific algorithms because of the convenience it would provide to the user, allowing greater ease in remembering authentication information.

In reference to claim 2:

Wilfong discloses a device wherein said calculation unit outputs a fixed number, as the check value, if the user specific formula consists of a fixed number, where the fixed number outputs indicate whether the calculation was successful or not. (Figure 3, Items 208, 209)

In reference to claim 3:

Wilfong discloses a device wherein the user-specific formula includes a variable that is an indication of a time at which said calculation unit calculates the check value, where the time indicating variable is the random number used in the formula. (Column 3, lines 25-31)

In reference to claim 4:

Wilfong discloses a device further comprising:

- A random number generating unit which generates said at least one randomly generated number. (Column 3, lines 23-31)

Pegg discloses:

- A control-data unit which stores therein user IDs and user specific formulas associated with respective user IDs. Pegg(Figure 1) and Pegg(column 6, lines 53-57)
- A selection unit which selects one of the user-specific formulas from said control-data unit in response to a user ID of said user. Pegg (column 5, lines 33-45)

In reference to claim 5:

Wilfong fails to teach the further limitation of claim 5.

Pegg discloses a device, further comprising:

A registration/updating unit which updates one of the user-specific formulas in the control-data unit with a user-entered formula only if the user entering the user-entered formula proves knowledge of said one of the user-specific formulas by entering said one of the user-specific formulas. Pegg (Fig 2a, Fig 2b)

Claims 6 and 11 are rejected for the same reasons as claim 1.

Claims 7 and 12 are rejected for the same reasons as claim 2.

Claims 8 and 13 are rejected for the same reasons as claim 3.

Claims 9 and 14 are rejected for the same reasons as claim 4.

Claims 10 and 15 are rejected for the same reasons as claim 5.

In reference to claim 16:

Wilfong discloses an apparatus where when the user enters a wrong user-entered value, the user is allowed to enter a new user-entered value in response to at least one new randomly generated number being presented to the user, where if the user enters in a wrong value, the process is returned to the point where the a new random number is generated and the user may enter a new number. If authentication fails completely, then the user may also restart the process completely, allowing the user to reenter a new number in response to a new randomly generated number.

(Figure 3)

Claims 17 and 18 are rejected for the same reasons as claim 16.

In reference to claim 24:

A device to check user identification, comprising:

A processing unit to calculate a calculated value by applying a user-specific formula to one random number and to determine whether a user entered value (Wilfong Figure 3, Item 204, 205) matches the calculated value by presenting the random number to the user, the user-specific formula having elements (Wilfong Figure 3, Item 207), each of which is an operand or an operator, and is user-specific. (Pegg Figure 1)

Pegg is combined for the motivations as stated in claim 1.

Claims 25 and 26 are rejected for the same reasons as claim 24.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of the final action and the advisory action is not mailed under after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension pursuant to 37 CFR 1.136(A) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M Ho whose telephone number is (703)305-8029. The examiner can normally be reached on M-F from 8:30am – 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached at (703)308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5484.


GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

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TMH

May 19th 2004